Amendments to the Claims

1. (*Original*) A method of determining a centroid of a target set in a wafer, said method comprising the steps of:

a) receiving said wafer, said wafer having said target set formed therein, said target set including a plurality of target shapes separated by a material;

b) passing a signal over said plurality of target shapes and over said material of said target set;

c) receiving a return signal that is reflected from said plurality of target shapes and from said material separating said plurality of target shapes within said target set;

d) identifying a location of each of at least one extrema of said return signal reflected from said material separating said plurality of target shapes within said target set; and

e) determining said centroid of said target set from said at least one extrema of said return signal.

2. (*Previously Presented*) The method recited in Claim 1 wherein said at least one extrema is a maxima point.

3. (*Original*) The method recited in Claim 1 wherein said signal is a laser signal.

4. (*Original*) The method recited in Claim 2 wherein said maxima point is determined from a slope of an intensity of said return signal, said slope existing on either side of said maxima point.

5. (*Original*) The method recited in Claim 1 wherein said plurality of target shapes includes two rectangular target shapes.

6. (*Previously Presented*) A method of determining a centroid of a target set in a wafer, said method comprising the steps of:

receiving said wafer, said wafer having said target set formed therein, said target set including a plurality of target shapes separated by a material wherein said plurality of target shapes includes two rectangular target shapes;

passing a signal over said plurality of target shapes and over said material of said target set;

receiving a return signal that is reflected from said plurality of target shapes and from said material separating said plurality of target shapes within said target set;

identifying a location of each of at least one extrema of said return signal reflected from said material separating said plurality of target shapes within said target set wherein only one maxima point is generated; and

determining said centroid of said target set from said at least one extrema of said return signal.

7. (*Original*) The method recited in Claim 6 wherein said centroid is located at said one maxima point.

8. (*Original*) The method recited in Claim 1 wherein said plurality of target shapes includes four rectangular target shapes.

9. (*Previously Presented*) A method of determining a centroid of a target set in a wafer, said method comprising the steps of:

receiving said wafer, said wafer having said target set formed therein, said target set including a plurality of target shapes separated by a material wherein said plurality of target shapes includes four rectangular target shapes;

passing a signal over said plurality of target shapes and over said material of said target set;

receiving a return signal that is reflected from said plurality of target shapes and from said material separating said plurality of target shapes within said target set;

identifying a location of each of at least one extrema of said return signal reflected from said material separating said plurality of target shapes within said target set wherein said at least one extrema are comprised of three maxima points, said three maxima points including two outer maxima points and a center maxima point; and

determining said centroid of said target set from said at least one extrema of said return signal.

10. (*Original*) The method recited in Claim 9 wherein a location of said centroid is based on a median location between said two outer maxima points, averaged with a location of said center maxima point.

11. (*Original*) The method recited in Claim 9 wherein a location of said centroid is based on a centroid calculation using a location of all three maxima points.

12. (*Currently Amended*) A stepper for aligning a wafer, said stepper comprising:

a processor; and

a computer readable memory, said computer readable memory coupled to said processor, said computer readable memory containing program instructions stored therein that when executed ~~over said~~ by said processor implement a method for determining a centroid of a target set in said wafer, said method comprising the steps of:

a) receiving said wafer, said wafer having said target set formed therein, said target set including a plurality of target shapes separated by a material;

b) passing a signal over said plurality of target shapes and over said material of said target set;

c) receiving a return signal that is reflected from said plurality of target shapes and from said material separating said plurality of target shapes within said target set;

d) identifying a location of each of at least one extrema of said return signal from said material separating said plurality of target shapes within said target set; and

e) determining said centroid of said target set from said at least one extrema of said return signal.

13. (*Currently Amended*) ~~The method recited in Claim 12~~ The stepper as recited in claim 12, wherein said signal is a laser light signal.

14. (*Curently Amended*) ~~The method recited in Claim 12~~ The stepper as recited in claim 12, wherein said extrema is a maxima point determined from a slope of ~~said intensity~~ an intensity of said return signal, said slope existing on either side of said maxima point.

Claims 15-22 (*Cancelled*)